

## **ALLOWANCE**

### ***Rejoinder***

- 1) The restriction requirement between all inventions is withdrawn and all claims are rejoined.
- 2) The Examiner called the attorney for the Applicant and informed them of the rejoinder. The attorney agreed to cancel some claims with broader scope and also agreed to cancel redundant claims (see interview summary).

### ***Objections and Rejections that are Withdrawn***

- 3) The objection to the specification for use of a trademark is withdrawn in light of the Applicant's amendment to the specification.
- 4) The rejections of claims 24-30 under 35 USC 112, first paragraph, for lack of written description and lack of scope of enablement are withdrawn in light of the Applicant's explanation in the interview on Mar. 26, 2008, and in light of the written traversal received in the papers filed on April 11, 2008. These arguments and explanations were found to be persuasive, as it is clear that all claims are limited in scope to nucleic acids encoding SEQ ID NO:1, or to a polypeptide comprising SEQ ID NO:1, or to methods that utilize such nucleic acids.

**EXAMINER'S AMENDMENT**

5) An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Alexander H. Spiegler on March 30, 2009.

The application has been amended as follows:

IN THE CLAIMS:

Claims 1-5, 9, 11-13, 15-21, 23, and 32 are cancelled.

1-5 (Cancelled).

6. (Currently Amended) The method of claim ~~[[5]]~~ 31, wherein the ~~I-See1 encoding gene~~ isolated DNA fragment comprises the nucleotide sequence of SEQ ID NO: 4.

7. (Currently Amended) The method of claim ~~[[1]]~~ 31, ~~whereby~~ wherein the plant cell is a maize cell.

9. (Cancelled).

10. (Currently Amended) The method of claim [[9]] 34, wherein said plant phenolic compound is acetosyringone.
- 11-13 (Cancelled).
14. (Currently Amended) The method of claim [[11]] 35, wherein said direct DNA transfer is accomplished by bombardment of microprojectiles coated with the foreign DNA of interest.
- 15-21 (Cancelled).
22. (Currently Amended) The method according to claim [[21]] 34, wherein said plant phenolic compound is acetosyringone (3,5-dimethoxy-4-hydroxyacetophenone),  $\alpha$ -hydroxy-acetosyringone, sinapinic acid (3,5 dimethoxy-4-hydroxycinnamic acid), syringic acid (4-hydroxy-3,5 dimethoxybenzoic acid), ferulic acid (4-hydroxy-3-methoxycinnamic acid), catechol (1,2-dihydroxybenzene), p-hydroxybenzoic acid (4-hydroxybenzoic acid),  $\beta$ -resorcylic acid (2,4 dihydroxybenzoic acid), protocatechuic acid (3,4-dihydroxybenzoic acid), pyrogalllic acid (2,3,4 -trihydroxybenzoic acid), gallic acid (3,4,5-trihydroxybenzoic acid) or vanillin (3-methoxy-4-hydroxybenzaldehyde).
23. (Cancelled).
24. (Currently Amended) In line two, replace "SEQ ID No 1" with - - SEQ ID NO:1 - - .
25. (Currently Amended) In line two, replace "ID No 2" with - - ID NO: 2 - - .

26. (Currently Amended) In line two, replace "SEQ ID No 3" with - - SEQ ID NO:3 - - .
27. (Currently Amended) The [[An]] isolated DNA sequence according to claim 26, wherein said isolated DNA sequence comprises a nucleotide sequence differing from the nucleotide sequence of SEQ ID [[No]] NO: 4 in only one position.
28. (Currently Amended) The [[An]] isolated DNA sequence according to claim 26, wherein said isolated DNA sequence comprises a nucleotide sequence differing from the nucleotide sequence of SEQ ID [[No]] NO: 4 in only ten positions.
31. (Currently Amended) A method for introducing a foreign DNA of interest into a preselected I-Sce I site of a genome of a plant cell comprising the steps of
- (a) inducing a double stranded DNA break at the preselected site in the genome of the cell by introduction of [[a]] the chimeric gene according to claim 30; and
  - (b) introducing the foreign DNA of interest into the plant cell.
32. (Cancelled).
33. (Currently Amended) The method of claim 31, wherein said chimeric gene comprises an isolated DNA fragment comprising the nucleotide sequence of SEQ ID [[No]] NO: 3.

**EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE**

- 6) The following is an examiner's statement of reasons for allowance:

The Applicant is on the record stating that SEQ ID NOs: 2, 3, and 4 each encode the polypeptide of SEQ ID NO:1 (see page 21 of the response received on July 16, 2007). Therefore, if the polypeptide of SEQ ID NO:1 is free of the art, and if nucleic acids that encode the polypeptide of SEQ ID NO:1 are free of the art, then claims directed to SEQ ID NOs: 2, 3, and 4, are also free of the art. Given the degeneracy of the sequences (SEQ ID NO:2, 3, and 4); and given the large number of provisos about individual nucleotide sequences in claims 25 and 26, it was difficult to perform a meaningful search of claims 25 and 26; therefore, the Examiner is relying on the Applicant's statement that the nucleic acids of SEQ ID NOs: 2, 3, and 4 each encode the polypeptide of SEQ ID NO:1. Given the high level of skill in the art, and given the universal genetic code, all claims limited in scope to nucleic acids encoding SEQ ID NO:1 are adequately described and enabled.

The closest prior art is Chilton et al (Plant Physiology (2003) Vol. 133, pp. 956-965) who teach targeted integration of T-DNA into the tobacco genome with a method that utilizes a restriction enzyme to introduce a double-stranded break. Also taught in the prior art is the amino acid sequence of I-SceI, which is the restriction enzyme of the instant invention (see US Patent No. 5,474,896). Also taught in the prior art are nuclear localization signals (NLS), including the SV40-type NLS which is recognized in plants (see Raikhel: Plant Physiology (1992) Vol.

100: pp. 1627-1632). The polypeptide of the instant invention (SEQ ID NO:1) is the I-SceI polypeptide, lacking the first two amino acids, with the SV40 NLS added to the N-terminus, and with an additional N-terminal extension of methionine, alanine, lysine, and proline (MAKP). The prior art does not teach the SV40 NLS with this additional MAKP peptide, nor does the prior art teach I-SceI with an MAKP N-terminal peptide. Therefore, the polypeptide of the instant SEQ ID NO:1 is free of the prior art, because the prior art does not teach or fairly suggest this particular amino acid sequence. For this same reason, nucleic acids encoding SEQ ID NO:1 are free of the prior art, and methods that utilize such nucleic acids are free of the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7) Claims 6-8, 10, 14, 22, 24-31, and 33-38 are allowed and are renumbered as claims 15-20 and 1-14, respectively.

8) Any inquiry concerning this communication or earlier communications from the examiner should be directed to CATHY K. WORLEY whose telephone number is

(571)272-8784. The examiner can normally be reached on M-F 10:00 - 4:00, with additional variable hours before 10:00 and after 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cathy K. Worley/  
Primary Examiner, Art Unit 1638